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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,710	06/26/2006	Masao Otsuka	Q95056	3837
23373 7590 12/21/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER BUIE, NICOLE M	
			ART UNIT 4145	PAPER NUMBER
			MAIL DATE 12/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/584,710

**Applicant(s)**

OTSUKA ET AL.

**Examiner**

Nicole M. Buie

**Art Unit**

4145

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date 20060626
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang (WO 02/28925 A2) in view of Connor et al. (US 6,395,701).

Regarding claims 1 and 2, Tang discloses a process for preparing a fluoropolymer (Abstract) containing at least one kind of fluoroolefin (P2/L28-32), which comprises carrying out polymerization in the presence of a hydrocarbon surfactant (Abstract), wherein said surfactants are linear. While Tang does not disclose the specific surfactant recited in the instant claims, the reference is not limited to any specific examples of hydrocarbon surfactants.

Connor et al. discloses branched surfactants to be utilized in surfactant systems (Abstract). Connor et al. teaches a surfactant recited in instant claims (wherein  $R_1$  and  $R_2$  may be the same or different respectively and represent an alkyl group or an alkenyl group,  $R_3$  is a hydrogen atom, an alkyl group or an alkenyl group, the total carbon number of  $R_1$  to  $R_3$  is 2 to 25,  $L^-$  is a group represented by  $-\text{SO}_3^-$ ,  $-\text{OSO}_3^-$ ,  $-\text{PO}_3^-$ ,  $-\text{OPO}_3^-$ , or  $-\text{COO}^-$ , and  $M^+$  is a monovalent cation) (C4/L59-C5/L21).

One of ordinary skill in the art at the time of invention would have understood that branched surfactants have been shown to have unusual properties, such as low melting points relative to equal carbon number linear surfactants, and that such properties are beneficial for polymerization processes as taught by Tang. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the linear surfactant of Tang with the branched surfactant of Connor et al., for the purpose of making the processing easier and to improve the polymerization process.

Regarding claim 3, modified Tang discloses all the claim limitations as set forth above. Additionally Connor et al. further discloses the process wherein the total carbon number is 10 to 20 (C4/L63-C5/L21).

Regarding claim 4, modified Tang discloses all the claim limitations as set forth above. Additionally, Tang further discloses the process wherein the polymerization is polymerization for preparing a seed particle (P22/L8-9).

Regarding claim 5, modified Tang discloses all of the claim limitations as set forth above, and further discloses the process wherein the fluoroolefin is 1, 1-difluoroethylene ("vinylidene fluoride", P2/L31).

### *Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Buie whose telephone number is (571) 270-3879. The examiner can normally be reached on Monday-Thursday, 7am-4:30pm, and Fridays, 7am-3:30pm with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call (800) 786-9199 (IN USA OR CANADA) or (571) 272-1000.

/N. M. B./  
Examiner, Art Unit 4145  
12/20/2007

/Basia Ridley/  
Supervisory Patent Examiner, Art Unit 4145